



CLIMATE OUTLOOK and REVIEW
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Will an El Niño develop this winter?

3 June 2008

The aims of this review are to provide a critical analysis of climate forecasts and associated information from a wide range of credible sources.

Overview of climate forecasts:

The La Niña pattern of 2007/08 continues to fade. The April/May SOI phase came in as '*rapidly falling*' with the SOI for May close to minus 3.6 (-3.6), although fluctuations to the SOI are still occurring.

The rainfall probability outputs associated with the 'SOI phase system' for the total period June to August suggest the chances of receiving the long-term median rainfall are quite mixed for this period for most of Queensland. While parts of Central Queensland and the south-east have a 50% to 70% chance of exceeding the median, other regions, such as the southern interior have a 20% to 30% for this period.

In southern states, regions that had relatively high rainfall probability values for the May to July period show lower rainfall probability values for the June to August period (see the accompanying map). Conversely, regions along the NSW Coast and adjacent inland have relatively high probability values of exceeding the long-term median (~70%) for the June to August period.

Some of the more highly regarded long-term climate models ('coupled ocean-atmosphere models') are now suggesting potential for an El Niño to develop during the southern hemisphere winter this year. The Southern Oscillation Index (SOI) has fallen over the past weeks, although it is only just slightly negative at this stage. Climatologists and oceanographers, globally, are just beginning to assess this information and more will be provided on this web page as information becomes available. At this stage, the sea-surface temperature patterns do not yet show an El Niño in the central Pacific Ocean and it is suggested a 'watch' be kept on this situation.

For updated information, sometimes available on a daily basis please refer to the following:

US Climate Prediction Center:

<http://www.cpc.noaa.gov/products/precip/CWlink/MJO/enso.shtml> .

UK Met Office Hadley Centre:

<http://www.metoffice.gov.uk/research/seasonal/elnino/index.html>

European Centre for Medium Range Weather Forecasting:

http://www.ecmwf.int/products/forecasts/d/charts/seasonal/forecast/seasonal_range_forecast/nino_plumes_public_s3/

And suggest explore associated images from:

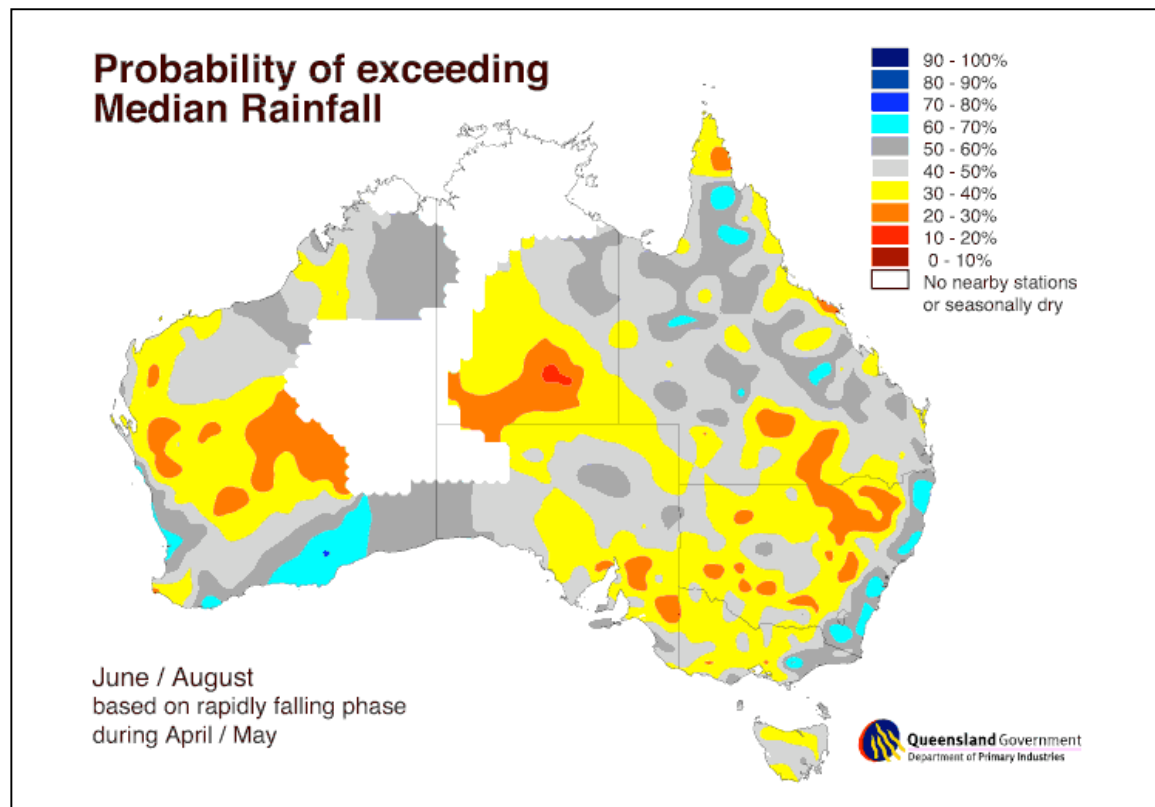
http://www.ecmwf.int/products/forecasts/d/charts/seasonal/forecast/seasonal_range_forecast/group_public/seasonal_charts_public_rain!rain!1%20month!East%20Asia!200805!prob%20exceeding%20median!/

Bureau of Meteorology: www.bom.gov.au/climate/ahead/ENSO-summary.shtml

Updated information on the Madden Julian Oscillation (MJO) can be found at (<http://www.apsru.gov.au/mjo/index.asp>). It appears that the *MJO may influence eastern and northern Australia in late-June, suggesting any short-term relief rainfall may occur around that period.*

The sub-tropical ridge: The mean position of the 'sub-tropical ridge' continues to exist over southern Australia and may continue to reduce rainfall in that region

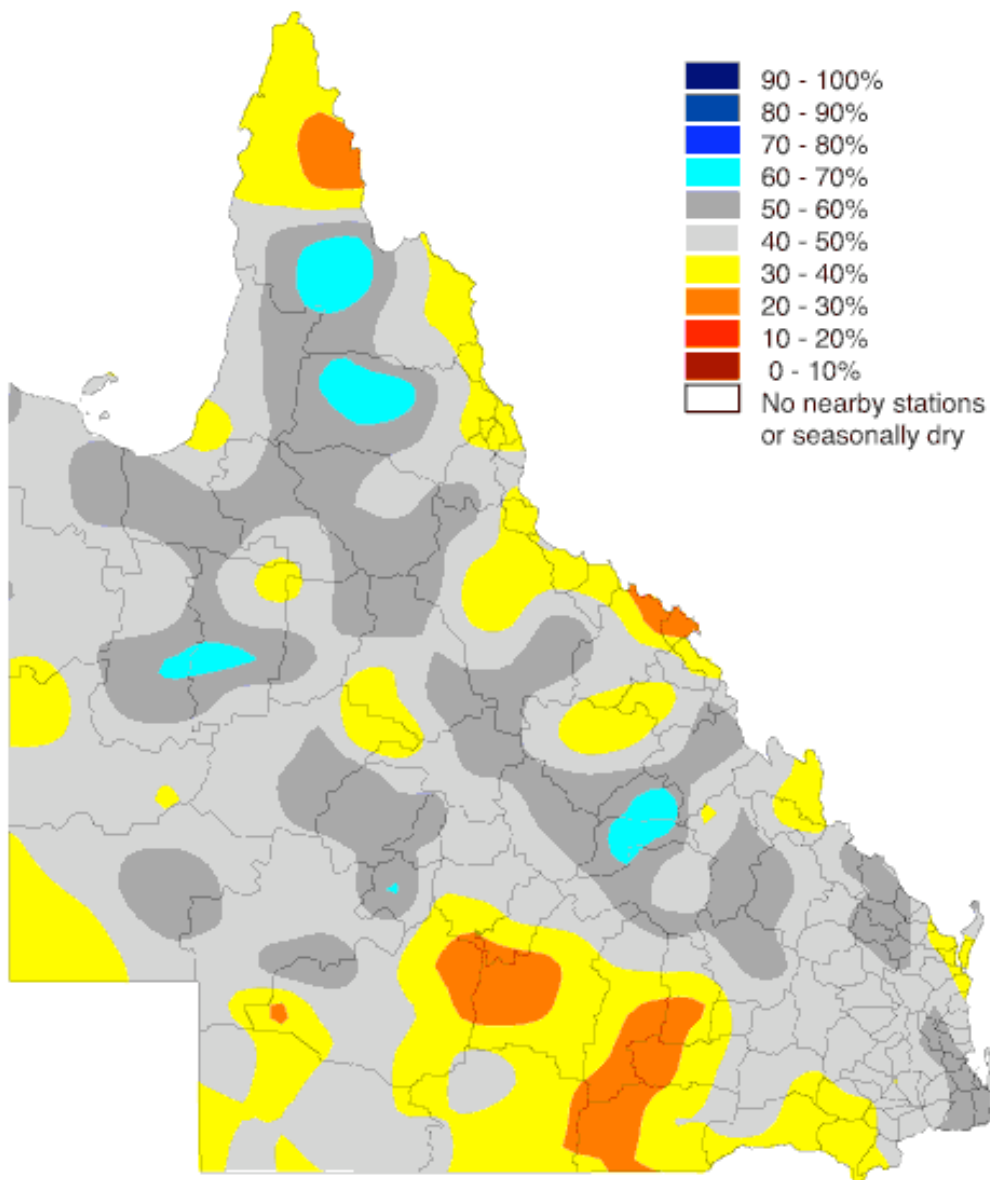
Independent verification in real time results: Results from Bureau of Meteorology assessment of the climate forecast systems used in these analyses is presented in the *Appendix*.



Rainfall forecast probability values for Australia for the June to August period, 2008.

Probability of exceeding Median Rainfall

for June / August
based on rapidly falling phase
during April / May



Rainfall probability values for Queensland for the June to August period, 2008.

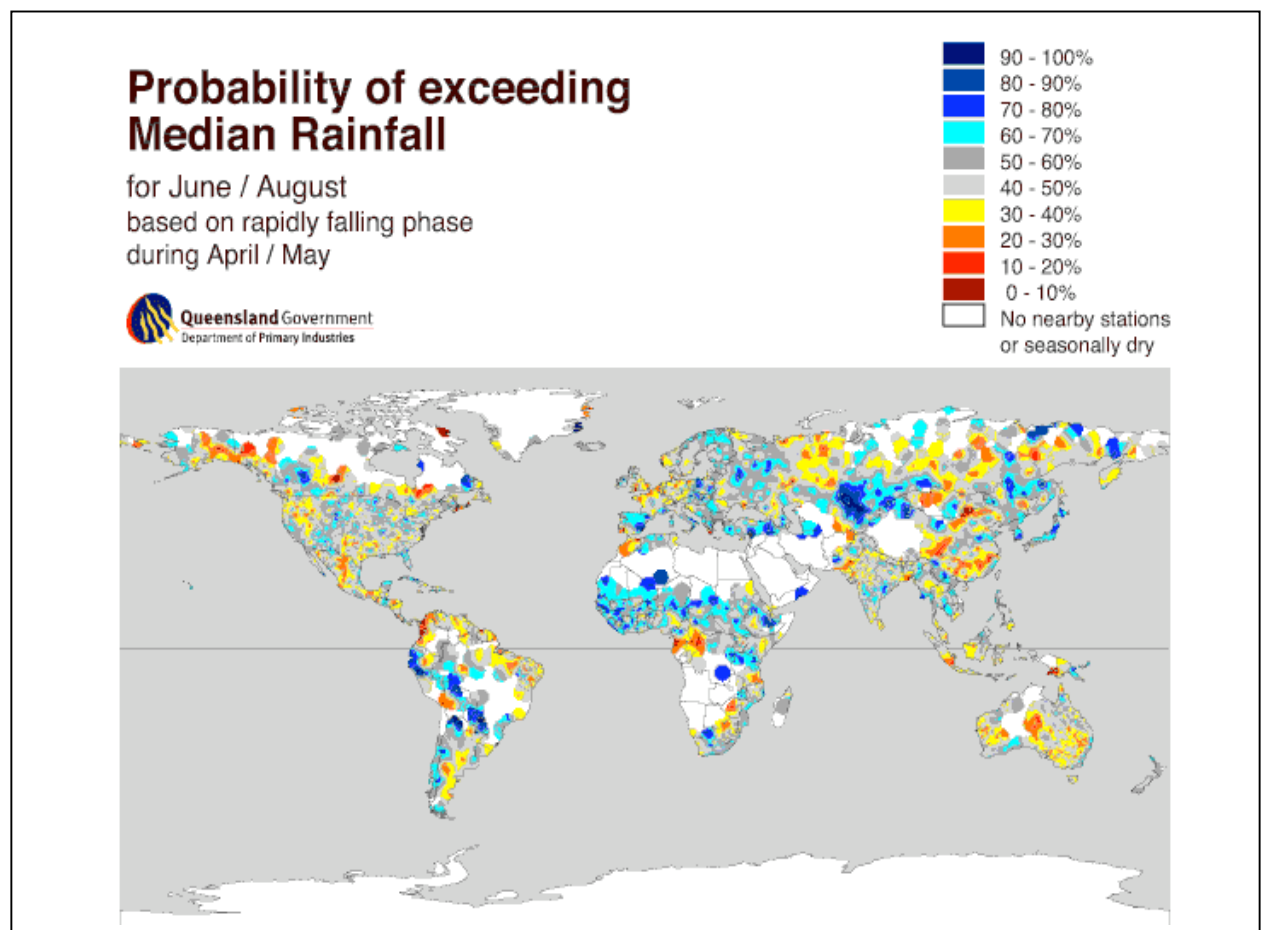
Source: Stone, R.C., Hammer, G.L., and Marcussen, T. (1996) *Nature*, 384, 252-255, 21 November 1996.

Map source courtesy of and available at: <http://www.longpaddock.qld.gov.au/>

Particularly useful forecast maps are available on the longpaddock web site (<http://www.longpaddock.qld.gov.au/>) and useful information is available on <http://www2.dpi.qld.gov.au/climate/>.

Global forecast maps

Global rainfall probability forecast values are also contained in this coverage. For the June to August period, 2008, notably high rainfall probability values are suggested for western (Sahel) and have developed for parts of inland Australia, some sections of inland China and parts of Indonesia.



APPENDIX:

Independent verification in real-time analysis

(**Note:** this relates to all forecasts for all months, not only when El Niño/La Niña were present).

Dark red-shaded regions denote regions of high forecast 'skill' while regions shaded white (eg: inland Western Australia) have relatively low forecast 'skill' using this method.

